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Matching military skills to civilian jobs: does military training enhance veteran's civilian wage rates?

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by

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This thesis statistically analyzes the transferability of military skills to civilian job markets and the relationship between acquired military training and civilian wages. It also assesses the extent to which military training is utilized by veterans currently employed in the civilian labor force and analyzes the process by which veterans assimilate into the civilian work force, including the role geographic migration plays in this process. The relationship between veteran status and post-service civilian wages is examined using linear regression methods. The models test the existence of either a veterans premium or penalty with respect to civilian earnings as a function of various military training, occupation, background, and other variables. Results show that veterans receive a significant wage premium over their civilian counterparts. Additionally, veterans who use their military training in their current civilian job receive higher wages than either non-veterans or veterans who do not use their military skills in civilian occupations.

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ABSTRACT

This thesis statistically analyzes the transferability of military skills to civilian job markets and the relationship between acquired military training and civilian wages. It also assesses the extent to which military training is utilized by veterans currently employed in the civilian labor force and analyzes the process by which veterans assimilate into the civilian work force, including the role geographic migration plays in this process. The relationship between veteran status and post-service civilian wages is examined using linear regression methods. The models test the existence of either a veterans premium or penalty with respect to civilian earnings as a function of various military training, occupation, background, and other variables. Results show that veterans receive a significant wage premium over their civilian counterparts. Additionally, veterans who use their military training in their current civilian job receive higher wages than either non-veterans or veterans who do not use their military skills in civilian occupations.

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I. INTRODUCTION

Civilian leaders and military officials have often stated that the highest honor one can attain is through service in the United States Armed Forces. But questions have been raised as to whether veterans pay a price for their service in the form of a reduction in their earnings as compared to nonveterans or whether military training and experience actually increases their earning potential. It is often argued that veterans should expect lower wages than otherwise similar civilians in the same age cohorts. These lower wages may be due to various factors, including foregone civilian job tenure and labor market experience in the civilian sector, and military training that is not valued in civilian labor markets. On the other hand, there is some reason to expect a "veterans premium" in the form of wages higher than comparable nonveterans due to the high degree of training in the military and human capital investment made by service members.

This thesis statistically analyzes the transferability of military skills to civilian job markets and the relationship between acquired military training and civilian wages. It also assesses the extent to which military training is utilized by veterans currently employed in the civilian labor force to increase their earnings. Finally, this thesis analyzes the process by which veterans assimilate into the civilian work force, including an analysis of the role geographic migration plays in this assimilation process. This thesis attempts to determine the relationship between veteran status and post-service civilian wages using ordinary least squares (OLS) regression methods. These statistical models are developed to test the existence of either a veterans premium or penalty with respect to civilian earnings as a function of various training, occupation, background, and military variables.

II. LITERATURE REVIEW

An analysis of the impact of military training on post-service wages has a three-fold purpose. First, during the current downsizing, the goal of a "smaller" military may adversely effect the quantity and quality of military training provided. This may ultimately affect veterans' civilian productivity. Second, if it is not perceived that military service and associated training increases employability and/or wages, recruitment may suffer. The wage effects of military training are especially important during the military downsizing, during which many additional service members are being released from active duty to meet reduced end-strength goals. Many of these members would, in normal times, have remained in the military. Therefore, civilian labor markets will be comprised by larger amounts of veterans than in the recent past.

Finally, military life has always been transient in nature. Service members and their families are required to be geographically mobile to meet the needs of the Department of Defense (DOD). One aspect of the transition of military to civilian life is the rate at which veterans "assimilate" into the civilian labor force. Veterans may be able to assimilate quickly into civilian labor markets after they leave the military as a result of their superior ability to migrate to more lucrative job markets.

A. MILITARY SERVICE AND CIVILIAN WAGES

Research on the effects of veteran status on civilian wages has been conducted utilizing several data sources and statistical techniques. I will initially focus on the studies of Lisa Lynch, who analyzed data from the National Longitudinal Surveys Youth Cohort (NLSY) to determine the effects of different types of training on the earnings of young workers [Ref. 1]. Although her study does not address the effect of military service per se, this literature highlights the personal attributes which positively influence civilian earnings. Also, Bryant and Wilhite's study on the effects of military experience and training will be reviewed [Ref. 2]. This study yields information on branch-specific effects on wages and how military training influences civilian earnings. Finally, DeTray's article on the role of the military as a screening device [Ref. 3] and Magnum and Ball's article on the transferability of military skills to civilian job markets will be utilized [Ref. 4].

Lynch theorized that "as a worker acquires more training, the individual's productivity and consequently earnings should increase." Additionally, she argued that NLSY data are far superior to the other available micro-data. Similar studies had used the Current Population Survey (CPS) data file. However, Lynch argued that (CPS) data contained incomplete information on the total amount of training received for individuals, and control of cohort effects was extremely difficult in CPS surveys. She uses the NLSY data and utilizes a log of earnings model which includes labor market experience, job tenure, training, job transition, and union status as explanatory variables. In addition, she includes measures of the length of various types of civilian training: for on-the-job training, off-the-job training, and apprenticeship training.

Lynch also noted that the probability of receiving training was influenced by race and gender. She cited that females and minority groups were much less apt to receive training that could be reflected in higher earnings [Ref. 1:p. 303]. Lynch excluded veterans from her research because she felt that military training could not be directly compared to civilian training. Although her study excludes the military, her findings are important in that she finds that the type and length of training positively affect earnings.

Bryant and Wilhite theorized that the stock of human capital brought to the labor market depends on the stock acquired in the military relative to the stock foregone as a consequence of the time of military service. They concluded that the military is probably the largest institutionalized source of training in the United States, and yet the effect of military experience, including military training, remains controversial. They analyzed the NLSY to evaluate the effects of military tenure and military training on civilian earnings. Their results indicated that as the length of military service increases, the gap between the wages of veterans and non-veterans widens [Ref. 2:pp. 69-81]. Therefore, Bryant and Wilhite hypothesize the veteran forgoes considerable labor market experience by joining the military, and the veteran can expect to earn less than the civilian at the onset of entering the labor force, which supports Lynch's findings that experience and tenure are significant positive contributions to earnings.

Additionally, Bryant and Wilhite conclude that there are differences among the four services with respect to subsequent civilian earnings. Army and Marine Corps veterans suffer an earnings penalty with no compensation for formal training. Navy veterans receive either earnings penalties or premiums, depending on the type and quantity of military training received, and Navy veterans' civilian wages are negatively associated with length of military service. Finally, Bryant and Wilhite find that Air Force veterans are likely to receive earnings premiums based on their military training [Ref. 2:pp. 69-81].

In summation, Bryant and Wilhite conclude that veteran earnings are expected to be significantly different than nonveteran earnings. Veterans start at lower wages than their civilian counterparts. Additionally, Bryant and Wilhite state that the influence of veteran status on civilian wages can be either positive or negative dependent on the type and quantity of military training received by the veteran [Ref. 2:pp. 69-81]. DeTray argues that employers use veteran status as a screening device for applicants and, holding age and education constant, veterans tend to earn more than non-veterans [Ref. 3:pp. 133-142]. DeTray utilized the 1960 through 1970 Census Public Use Samples for his research. He argues that veterans exhibit lower initial and higher peak earnings when compared with nonveterans. DeTray theorizes that this veterans' premium in long-term earnings is a result of conscious decisions by both firms and potential employees, and he states that some employers use veteran status as a productivity screen. Veteran status indicates the successful completion of an obligation to the government to these employers, and the training and discipline instilled in veterans consequently causes better work performance and productivity in civilian jobs. This assumed higher productivity of veterans encourages employers to offer higher wages to veterans than their nonveteran counterparts. Also, DeTray states that employees choose different human capital investment paths to affect their earnings. Veterans have chosen military training, and they may also reap the benefits of such programs as the GI Bill and other educational endeavors, while nonveterans choose different human capital investment paths typically at their own expense [Ref. 3:pp. 133-142].

DeTray examines and classifies nonveterans into three distinct categories that may explain the differences between veteran and nonveteran earnings. The first category of non-veterans are those people who were denied enlistments into the military during pre-entry screening. These personnel either did not possess the required test scores, physical ability, or behavior to be suitable for military service. As such, these personnel entered directly into the civilian labor market. The second group of nonveterans are those individuals who could serve in the military, but chose not to. DeTray believes that these personnel could have passed entry requirements for the military, but they chose to invest in human capital outside the military. The third group of nonveterans are personnel that entered the military, but they could not become veterans. These individuals were unable to meet the established mental, physical, or behavioral standards of the military., and they were released from military service without attaining veteran status (i.e., they attrited) [Ref. 3:pp. 133-142]. DeTray argues that firms realize these distinctions between veterans and nonveterans, and they are subsequently more apt to employ, promote, and pay more to veterans than comparable nonveterans.

Using the March Current Population Survey, DeTray's earnings model specifies civilian earnings as a function of education, age, veteran status and region of residence. His research yields an overall positive premium for veterans of up to 10 percent for whites and 9 percent for blacks [Ref. 3:pp. 133-142].

DeTray also points out that there are some individuals below 30 years of age that display a negative wage effect of veteran status. This negative effect is attributed to the loss in civilian labor force experience by veterans. However, veterans quickly recover this lost experience once in the labor force. According to Detray, veterans' wages start below comparable nonveterans' wages and veterans' wages do not surpass counterpart nonveterans' wages for approximately two years. To overcome this gap in pay, a veterans premium, which increases earnings at levels up to ten percent above non-veterans' earnings, increases veterans' wages above and beyond comparable nonveterans.

B. EARNINGS EFFECT OF ASSIMILATION AND MIGRATION

The following section of the literature review describes assimilation and migration characteristics of veterans in civilian labor markets. Assimilation is the process by which veterans leave the military, enter the civilian work force, and return to an employment status similar to other non-veterans. It is measured from the time the veteran is discharged from the military, and includes the period of time necessary to conduct a job search and to recover lost labor market experience and training. Veterans' assimilation is dependent upon several variables; these include, the transferability of occupational skill training provided by the armed services to the civilian sector, the utilization of acquired military skills in compatible civilian occupations, the time since the veteran was discharged from the military, and the ability of the veteran to migrate to geographic areas in which job opportunities are more plentiful. Therefore, assimilation of veterans into the private sector is a function of the compatibility of the veterans training in the civilian labor market, the use of military training in a compatible civilian occupation, the period of time the veteran has been in the civilian labor market, and the migrational behavior of the veteran.

The military provides both general and specific training to its members. A key factor in the economic valuation of this training experience is the transferability of the training to civilian employment [Ref. 4:p. 230]. Analyzing the NLSY data for 1979-1984 Magnum and Ball conclude that the transfer of military-acquired skills is an important determinant of post-service earnings. Furthermore, within two years of their return to civilian life, veterans who used their military skills in matching civilian occupations enjoyed higher earnings than those who received training in the civilian sector. Therefore, military skill transferability and utilization in civilian labor markets are essential factors which contribute to the earnings potentials of veterans in comparison to nonveterans.

Geographic mobility, also known as "migrational characteristics," have been shown to positively affect civilian earnings. Using the 1967 Social Security Administration's One Percent Continuous Work History Sample, Gallaway investigates the effect of migration on one's earnings. His results indicate that people who migrate from a region generally have higher incomes than people who did not migrate in that same region [Ref. 5]. Gallaway defines regional migration as a change in residence between counties within a state since 14 years of age. Cox utilizing the same data from 1957 to 1964 also supports the hypothesis that geographic mobility increases the earnings of workers [Ref. 6]. Borjas, Bronars, and Trejo analyze the 1979-1986 waves of the NLSY to determine the impacts of county, state, and external migration on earnings [Ref. 7]. They use earlier assimilation regression models which found the natural log of wages were a function of worker characteristics, labor market experience, migration, and time since migration. This regression model is presented in equation (1) as follows;

$$\ln(W) = B_0 + B_1{*}E + B_2{*}E^2 + B_3{*}M + B_4{*}M{*}T + B_5{*}M{*}T^2 + U_i \qquad (1)$$

where: $\ln(W)$ = natural log of civilian wages
E = Labor market experience
M = Dummy variable indicating migration
T = Measures years since migration
U_i = Random error term

Borjas, Bronars, and Trejo determine that migrants initially earn less than natives, but because the earnings growth experienced by recent migrants exceeds that of natives, this wage differential disappears within a few years. They conclude the migration initially results in lower wages, but the growth of migrant wages is significantly larger than the growth of nonmigrant wages. Additionally, Borjas, Bronars, and Trejo conclude that the positive effects of migration on civilian wages diminish over time. Therefore, migration either between counties or states enhances private sector wages as workers seek more lucrative job markets. Although the migrant initially receives depressed earnings in comparison to their nonmigrant counterparts, the migrant's growth of wages, which is greater than the nonmigrant's growth of wages, results in higher wages for the migrant in approximately two years after migration. Furthermore, workers who remain geographically mobile are most likely to maintain higher relative wages than workers who are geographically immobile [Ref. 7:p. 175].

Life within the military is transient in nature. Personnel in the armed forces are relocated on a regular basis. Therefore, veterans that continue to display high geographic mobility in the private sector have the opportunity to significantly enhance their earnings in comparison to their civilian counterparts.

C. SUMMARY

To summarize, three areas of literature were reviewed: the literature on the effect of training on civilian earnings, the effect of military training transferability and utilization of military skills in the private sector on veterans' earnings; and veterans' civilian labor market assimilation and migration characteristics. From this review it is concluded that the effect of veteran status on civilian wages has been analyzed many times with different data and with different results. By analyzing longitudinal data, Lisa Lynch found that job experience, tenure, off-the-job training, and apprenticeship coupled with union membership are the most significant and positive factors in determining earnings. However, military experience could not be considered in her models because of the difficulty in translating training in the armed forces with applicable civilian employment opportunities. Bryant and Wilhite hypothesize that military training can enhance civilian earnings. But, veterans may incur a premium or a penalty from service in the military depending on the type and quantity of training received. Finally, DeTray argues that veteran status consistently promotes higher civilian earnings when data is stratified into separate age groups. Although initial wages will be lower upon entry in the civilian labor market, veterans can expect higher peak earnings than their civilian counterparts.

These studies suggest that military occupational training that is transferred directly into the civilian labor force will enhance veterans' earnings potential. Therefore, military occupations whose skills cannot be transferred to civilian occupations may penalize the civilian earnings of veterans. Finally, geographic mobility has been shown to positively influence the earnings in civilian labor markets, and the transient environment of the military may translate to higher earnings potential for veterans who continue to display this mobile behavior.

III. METHODOLOGY

A. THE SAMPLE AND BASIC MODELS

The sample used for the analysis in this thesis was created by replicating the work of Eric McCoy [Ref. 8]. The earnings models developed by McCoy analyze the effects of military training on civilian wages. An attempt is made here to replicate McCoy's results. The data used in this research is taken from the National Longitudinal Survey of Labor Market Experience Youth Cohort (NLSY). The initial survey was conducted in 1979. This survey consisted of 12,686 men and women aged 14-21 years of age, and participants in the 1979 sample were resurveyed annually. The NLSY contains large amounts of information on the original cohort group. As discussed in Bock and Moore [Ref. 9]:

> The NLSY sample consists of three independent probability samples: (1) a cross section sample designed to represent the non-institutionalized civilian segment of American young people 14 to 21 years old as of January 1, 1979, in their proper population proportions; (2) a supplemental oversample of civilian Hispanic, Black, and economically disadvantaged non-Hispanic, non-Black (poor white) youth in the same age range; and (3) a military sample designed to represent youth aged 17 to 21 as of January 1, 1979 who were serving in the military as of September 30, 1978.

The original oversample of those in the armed forces in 1979 was no longer continued in 1984 due to funding constraints, and the ratio of military to civilian respondents in the sample was dramatically reduced. Therefore, NLSY data for 1979 through 1983 is used in this thesis.

Four criteria are applied to the data to replicate previous studies on veterans earnings: (1) active duty military personnel (as of 1983) and those who attrited from the military prior to their end of active duty obligated service (EAOS) are deleted; (2) college graduates are deleted; (3) those who attended school (e.g., elementary, junior high or high school) or attended college full-time after the 1980 interview date are deleted; and (4) only participants who reported a wage observation for 1980 and 1983 are kept in the sample. These restrictions produce a final sample size of 3,521, of which 460 are veterans. The number of deletions that result from applying each successive restriction are shown in Table 1. These results are identical to the results of McCoy [Ref. 8:p. 16].

Table 2 shows the descriptive statistics for the full sample variables used in McCoy's study and for those obtained in the replication of his sample, while Table 3 and Table 4 show the descriptive statistics for the veteran subsample, and the nonveteran subsample, respectively. This thesis proposes that training received in the military is only effective in the private sector if the veteran can use his acquired skills in a comparable civilian job. Therefore, training in the military can only produce significant civilian wage returns for the veteran if the training can be matched to civilian jobs and the veteran uses his military skills in that job. Additionally, veterans must find suitable labor markets to utilize their skills. Military training will be ineffective for the veteran if a matching civilian job exists, but the veteran is not willing or is unable to geographically migrate to this civilian job. Therefore, McCoy's basic earnings models for veterans and nonveterans will be utilized for this thesis, but these models will be modified to account for the existence/absence of a comparable military to civilian jobs, the use/nonuse of military skills in these jobs, and the migration behavior of veterans in civilian labor markets to find these jobs.

B. CROSSWALK PROGRAM

The Department of Defense has realized that many military occupations are not transferable to civilian jobs. Some acquired skills and training within the military are specific only to the Department of Defense. For example, a Navy enlisted ballistic missile fire control technician (FTB) is responsible for maintaining ballistic missiles within the Navy's nuclear arsenal. This skill is demanding and crucial to the Navy's mission of strategic deterrence. An FTB may successfully complete his military obligation, but there are no civilian opportunities in which the FTB may utilize his acquired specific skills after leaving the service. Additionally, many civilian employers do not realize the military as a credible training institution. "Former military people may emerge into an economy that doesn't seem to need them and a culture that doesn't seem to understand them. Many (enlistees) joined the military because they saw it as a way out of dying small towns and into the mainstream of modern life. The veterans' ensuant rejection in civilian labor markets has yielded disenchantment and other related psychological problems." [Ref. 10]

A data file has been developed by the Department of Defense -- CROSSWALK-- to identify civilian occupations that are comparable to specific military occupations [Ref. 11]. If no civilian job is found that matches military ratings or military occupational specialty codes (MOS's), some DOD transition programs have been proposed to release enlistees from their military contracts up to one year prior to their end of active obligated service (EAOS) to pursue full time education. While still under the employ of the Department of Defense, these personnel can draw their full pay and allowances while receiving an education that will better prepare the enlistee for separation from the military and assimilation into civilian labor markets.

C. THE EXPLANATORY VARIABLES

The focus of this thesis is the use of military training, and the assimilation and migration characteristics of veterans to estimate civilian earnings, independent of other determinants. The core explanatory variables used in these earnings models are based on those used in the McCoy study [Ref. 8:pp. 25-27]. The variables used in the earnings models are defined as of 1983 and are defined in Table 5.

As in McCoy's study, several variables are used to account for employment factors [Ref. 8:p. 24]. These variables are weeks of tenure on the current job as of 1983 (WTEN83), weeks of total work experience in the current private sector job (WKSEXP), a dummy variable for membership in a union (WUW83), and number of jobs held previously (NO JOBS). Formal education is based on completed years of schooling in 1983 (YRSSCH83). Geographic location is captured by a dummy variable for living in a metropolitan area (SMSA), and the local unemployment rate (AREAUN83). Demographic characteristics are captured by dummy variables for gender (MALE = 1), health limitations (HEALTHY = 1), and marital status (MARRIED = 1). McCoy's study additionally categorizes current occupational groups with dummy variables for working in a professional occupation (PROFESS = 1), working in a technical occupation (TECH = 1), working in a sales occupation (SALES = 1), working in an administrative occupation (ADMIN = 1), working in a service related occupation (SERVICE = 1), working in a craft occupation (CRAFT = 1), working in a machinist occupation (OPMACHN = 1), working in a moving occupation (OPMOVNG = 1), working in a labor related occupation (OPLABOR = 1), or working in a farming occupation (FARMING = 1) [Ref. 8:p. 30].

McCoy's study uses three types of training explanatory variables to describe total private sector training and military training. As specified in Lynch's earnings models, total private sector training is measured in weeks of on-the-job, off-the-job, and apprenticeship training, respectively, for (1) training received in previous jobs (PONWKS), (POFWKS), (PAPWKS); (2) completed training in current/most recent job

(CMONWKS), (COFWKS), (CAPWKS); and (3) uncompleted training received in current/most recent job (UCONWKS), (UCOFWKS), (UCAPWKS) [Ref. 1:p. 302].

The explanatory variable describing veteran status is captured by a dummy variable which indicates successful completion of initial enlistment (VETB = 1). The sign of the coefficient of this variable will indicate the presence of a veteran premium (positive) or penalty (negative).

To determine if a matching civilian job existed for veterans, the CROSSWALK data set and the NLSY three-digit military occupation code, branch of service code, and rank coding is utilized. The military occupation coding in the NLSY is incompatible with the coding used in the CROSSWALK data set. Therefore, the NLSY military Department of Defense (DOD) occupation (three-digit) codes were converted to service-specific MOS codes manually using the DOD Occupational Conversion Manual as a guide [Ref. 11]. The service-specific codes are matched against the CROSSWALK data set to determine if a civilian job exists for each military occupation. The variable (MATCH) is assigned a value of "1" to indicate a when a military occupation has a matching civilian occupation and "0" otherwise. Whether the veteran uses military skills in a matching civilian job is captured by a dummy variable (USESKILL), which is assigned a value of "1" if respondents affirmed that they use skills acquired in the military in the current civilian job. As stated in the literature review, a veteran using military skills in civilian jobs is more likely to receive higher earnings than veterans who do not use such skills. It is not known, however, if this will produce a positive wage premium for veterans. Therefore, the expected signs of the coefficients for (MATCH) and (USESKILL) variables are not predictable *a priori*. If the signs are positive, they indicate a positive productivity effect of military skill training and transfer to the civilian sector.

Assimilation and migration of veterans in the private sector are described by dummy variables for veteran status (VETB = 1) and migration of a veteran (between counties or states) after discharge from the service (VETMIG = 1). Additional variables capturing the assimilation and migration of veterans are described in the time, measured in months since the veteran was discharged from the military (VETOUT), and the time in months since the veteran was discharged from the military squared (VETRET), the time in months since the veteran migrated to a different county or state (VETMON), and the square of the time in months since the veteran migrated to a different county or state (VETSQ). The variables (VETOUT) and (VETRET) are used to gain further information on the veterans' premium or penalty. The coefficient and sign of (VETOUT) provides an estimate of the growth rate over time of veteran wages in civilian jobs, while the coefficient and sign of (VETRET) estimates whether this growth increases or diminishes over time. Previous research in the literature indicates that geographic migration should initially reduce one's earnings when compared to nonmigrants due to a loss of tenure at the new job. However, the growth of migrants' wages tends to be greater than nonmigrants, although it diminishes over time. Therefore, the coefficient of (VETMIG) estimates the initial impact of veteran migration on civilian earnings, while the coefficient of (VETMON) estimates the rate at which migrant-veterans' wages increase/decrease in comparison to nonveterans. The coefficient of the variable (VETSQ) shows whether this wage growth rate from veteran migration diminishes or increases over time. Table 5 shows the expected signs of the coefficients.

D. THE EARNINGS MODELS

Ordinary least square (OLS) regression analysis is used to estimate twelve different semi-log earnings models. The natural logarithm of the 1983 wages is the dependent variable for the models. Models based on the full sample (replicated McCoy sample) use 3,285 observations; 49 observations have missing values. Models based on the veteran subsample use 414 observations; 69 observations have missing values. Models based on the nonveteran subsample use 2,870 observations, with 168 missing values.

The first three estimated models represent an attempt to replicate the data file and empirical results in the McCoy study. The McCoy regression models are recreated using the model specifications shown in equations (2) - (4). The models are first estimated using the replicated sample described above in section A of this chapter.

The results reported in McCoy's original paper for describing civilian earnings for the full sample are reproduced in the first two columns of Table 6. The results of the replication attempt in this thesis are reported in the last two columns of Table 6. This basic model applied to the full sample demonstrates that tenure (<u>WTEN83</u>), job experience (<u>WKSEXP</u>), education (<u>YRSSCH83</u>), living in a metropolitan area (<u>SMSA</u>), sex (<u>MALE</u>), health status (<u>HEALTHY</u>), marital status (<u>MARRIED</u>), and union membership (<u>WUW83</u>) all positively affect civilian earnings, while unemployment in the area (<u>AREAUN83</u>), and race (<u>NONWHITE</u>) are negatively associated with civilian earnings. The coefficient of the variable describing the number of previous jobs held by the respondent (NO JOBS), also is negative,

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + U_i \qquad (2)$$

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train + U_i \qquad (3)$$

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train + B_4{*}OcCod + U_i \qquad (4)$$

where: $\ln(W)$ = natural log of civilian wages
B_0 = intercept term

Bkgnd = Worker background variables including: (YRSSCH83), (SMSA), (MALE), (NONWHITE), (HEALTHY), and (MARRIED)

EmFac = Employment variables including: (WTEN83), (WKSEXP), (AREAUN83), (WUW83), and (NO_JOBS)

Train = Employee training variables including: (PONWKS), (PAPWKS), (POFWKS), (UCONWKS), (CMONWKS), (UCAPWKS), and (COFWKS)

OcCod = Civilian occupation code variables including: (PROFESS), (TECH), (SALES), ADMIN), (SERVICE), (FARMING), (CRAFT), (OPMACHN), and (OPMOVNG)

U_i = Random error term

but statistically insignificant. As shown in Table 6, the estimated coefficients and their statistical significance are the same between McCoy's results and the replicated model in this thesis. Table 7 and Table 8 present McCoy's basic civilian earnings models and the basic civilian earnings models in this thesis for the veteran and nonveteran subsamples, respectively. This basic earnings model applied to the veteran and nonveteran subsamples demonstrates that (WTEN83), (AREAUN83), and (MARRIED) become statistically insignificant for veterans, while these variables remained significant for the nonveteran subsample. As shown in Table 7 and Table 8, the replicated model in this thesis concurs with these findings.

McCoy then modifies his first civilian earnings models by including private sector training variables. These variables include: (1) weeks of on-the-job training received on previous jobs (PONWKS), (2) weeks of apprenticeship training received on previous jobs (PAPWKS), (3) weeks of off-the-job training received on previous jobs (POFWKS), (4) weeks of completed on-the-job training received on current job (CMONWKS), (5) weeks of completed off-the-job training receive at current job

(COFWKS), (6) weeks of uncompleted on-the-job training received at current job (UCONWKS), and (7) weeks of uncompleted apprenticeship training received at current job (UCAPWKS). This model is then estimated for the full sample and the veteran subsample.

The results obtained by McCoy for these regressions are shown in the first two columns of Table 9 for the full sample, Table 10 for the veteran subsample, and Table 11 for the nonveteran subsample. McCoy's results for the full sample shown in Table 9 indicate that among the training variables (PONWKS), (PAPWKS), (POFWKS), (UCONWKS), (CMONWKS), and (UCAPWKS) positively influence civilian earnings, but only the variables (PAPWKS), (POFWKS), (UCONWKS), and (CMONWKS) are statistically significant at the usual 0.05 level. As shown in Table 9, the results of the replicated model used in this thesis for the full sample concur with McCoy's results.

McCoy then applies the basic training regression model to subsamples of veterans and nonveterans to determine the separate effects of the training variables for these two groups. The first two columns of Table 10 present his results for the veteran subsample. The variables (WKSEXP), (YRSSCH83), (SMSA), (MALE), and (POFWKS) are statistically significant and positively influence civilian earnings for veterans. (NONWHITE) is the only significant variable that is negatively associated with veteran earnings. The last two columns of Table 10 present the replicated model used in this thesis. The results are extremely similar with the exception that there are fewer observations of veterans due to a larger number of missing values. McCoy's nonveteran subsample results are shown in the first two columns Table 11. For nonveterans, the variables (WTEN83), (WKSEXP), (YRSSCH83), (SMSA), (MALE), (HEALTHY), (MARRIED), (WUW83), (NO_JOBS), (PAPWKS), (POFWKS), (CMONWKS), and (UCAPWKS) are statistically significant and positive. The variables (AREAUN83) and (NONWHITE) are statistically significant with a negative effect on earnings for the nonveteran subsample. The last two columns of Table 11 present the results of the replicated model used in this thesis for the nonveteran subsample. Again, these results are similar to McCoy's with the exception that the sample size in the replicated model is lager than McCoy's model by 19 observations.

Once the McCoy study was replicated satisfactorily, his basic earnings models are utilized to examine the transferability of military training to civilian jobs. These models are: (1) his basic earnings models, (2) his earnings model including training variables, and (3) his model including civilian occupation codes. There are two criteria for determining whether a veteran successfully utilizes his military training. First, a comparable job in the civilian sector must exist so that the veteran can at least potentially transfer his military training. The existence of a matching job also indicates the extent to which the training is general in nature. The results of these models will show the potential for transferability of military training to civilian labor markets. The three models are specified as shown in equations (5), (6), and (7) below. These models are analyzed separately for the full sample and for the veteran subsample. The variable (VETB) is excluded from the model for the veteran subsample to prevent perfect collinearity. The models are run for these two subsamples to determine how a match of military and civilian jobs affects veteran earnings when compared to nonveterans versus when compared to other veterans without matching civilian jobs.

Model (A)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + A_1{*}Match + A_2{*}VetB + U_i \qquad (5)$$

Model (B)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train \qquad (6)$$

$$A_1{*}Match + A_2{*}VetB + U_i$$

Model (C)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train + B_4{*}OcCod + A_1{*}Match + A_2{*}VetB + U_i \quad (7)$$

where:

- ln(W) = natural log of civilian wages
- B_0 = intercept term
- Bkgnd = Worker background variables including: (YRSSCH83), (SMSA), (MALE), (NONWHITE), (HEALTHY), and (MARRIED)
- EmFac = Employment variables including: (WTEN83), (WKSEXP), (AREAUN83), (WUW83), and (NO_JOBS)
- Train = Employee training variables including: (PONWKS), (PAPWKS), (POFWKS), (UCONWKS), (CMONWKS), (UCAPWKS), and (COFWKS)
- OcCod = Civilian occupation code variables including: (PROFESS), (TECH), (SALES), (ADMIN), (SERVICE), (FARMING), (CRAFT), (OPMACHN), and (OPMOVNG)
- Match = Dummy variable indicating existence of a civilian occupation that corresponds to a military occupation from the Crosswalk data file.
- VetB = Dummy variable indicating veteran status
- U_i = Random error term

The next definition of transferability is whether the veteran actually uses his military skills on his civilian job (USESKILL=1). The results of these models will show the utilization of at least some of the military training received in the civilian labor market. The models are specified as shown in equations (8), (9), and (10). Again, the full sample and the veteran subsample are analyzed separately. The models are run for these two subsamples to determine how the use of military skills in civilian jobs (USESKILL = 1) affects veteran earnings when compared to nonveterans versus when compared to other veterans who do not use military skills in civilian jobs. The variable (VETB) was again excluded from this model for the veteran subsample to prevent perfect collinearity. The models were run with these two data sets to compare earnings of veterans who used their military skills in civilian jobs against comparable nonveterans and against veterans who did not use their military skills in current civilian jobs.

Model (D)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + A_1{*}Useskill + A_2{*}VetB + U_i \quad (8)$$

Model (E)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train \; A_1{*}Useskill + A_2{*}VetB + U_i \quad (9)$$

Model (F)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train + B_4{*}OcCod + A_1{*}Useskill + A_2{*}VetB + U_i \quad (10)$$

where:

ln(W) = natural log of civilian wages

B_0 = intercept term

Bkgnd = Worker background variables including: (YRSSCH83), (SMSA), (MALE), (NONWHITE), (HEALTHY), and (MARRIED)

EmFac = Employment variables including: (WTEN83), (WKSEXP), (AREAUN83), (WUW83), and (NO_JOBS)

Train = Employee training variables including: (PONWKS), (PAPWKS), (POFWKS), (UCONWKS), (CMONWKS), (UCAPWKS), and (COFWKS)

OcCod = Civilian occupation code variables including: (PROFESS), (TECH), (SALES), (ADMIN), (SERVICE), (FARMING), (CRAFT), (OPMACHN), and (OPMOVNG)

Useskill = Dummy variable indicating military training was used by veteran in current civilian job.

VetB = Dummy variable indicating veteran status

U_i = Random error term

Models (G) and (H) below (equations 11 and 12) use McCoy's basic earnings model to examine the assimilation of veterans in civilian labor markets. These models introduce variables (VETOUT) for the time in months since discharge from the military and (VETRET) for the square of the time in months since discharge from the military. Following the research of Borjas, Bronars, and Trejo, these variables also measure how veterans' earnings vary with the length of time spent in the private sector [Ref. 7:p. 170]. Models (G) and (H) are estimated for the full sample and are specified as shown in equations (11) and (12), respectively.

Models (I) and (J) (equations 13 and 14) examine the earnings effects of migration by veterans. Models (I) and (J) are similar to models (G) and (H), but veteran migration status (VETMIG) is substituted for the (VETOUT) and (VETRET) variables. These models estimate how the effects of migration affect the civilian wages of veterans and are specified as shown in formulas (13) and (14). These models are specified for the full sample only.

Model (G)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + A_1{*}Vetout + A_2{*}Vetret + A_3{*}VetB + U_i \quad (11)$$

Model (H)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train \quad A_1{*}Vetout + A_2{*}Vetret + A_3{*}VetB + U_i \quad (12)$$

Model (I)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + A_1{*}Vetmig + A_2{*}VetB + U_i \quad (13)$$

Model (I)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train \quad A_1{*}Vetmig + A_2{*}VetB + U_i \quad (14)$$

where: ln(W) = natural log of civilian wages

B_0 = intercept term

Bkgnd = Worker background variables including: (YRSSCH83), (SMSA), (MALE), (NONWHITE), (HEALTHY), and (MARRIED)

EmFac = Employment variables including: (WTEN83), (WKSEXP), (AREAUN83), (WUW83), and (NO_JOBS)

Train = Employee training variables including: (PONWKS), (PAPWKS), (POFWKS), (UCONWKS), (CMONWKS), (UCAPWKS), and (COFWKS)

OcCod = Civilian occupation code variables including: (PROFESS), (TECH), (SALES), (ADMIN), (SERVICE), (FARMING), (CRAFT), (OPMACHN), and (OPMOVNG)

Vetout = Time in months since discharge from the military

Vetret = Time in months squared since discharge from the military

Vetmig = Dummy variable indicating veteran migration between counties or states.

VetB = Dummy variable indicating veteran status

U_i = Random error term

Finally, models (J) and (K) (equations 15 and 16) combine veteran assimilation and migrational characteristics to estimate the assimilation of veterans into civilian labor markets by combining veteran status, time since discharge, and veteran migration characteristics. These models are specified as shown in equations (15) and (16) for the full sample only.

Model (J)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + A_1{*}Vetmon + A_2{*}Vetsq + A_3{*}VetB + U_i \qquad (15)$$

Model (K)

$$\ln(W) = B_0 + B_1{*}Bkgnd + B_2{*}EmFac + B_3{*}Train + A_1{*}Vetmon + A_2{*}Vetsq + A_3{*}VetB + U_i \quad (16)$$

where:

ln(W) = natural log of civilian wages

B_0 = intercept term

Bkgnd = Worker background variables including: (YRSSCH83), (SMSA), (MALE), (NONWHITE), (HEALTHY), and (MARRIED)

EmFac = Employment variables including: (WTEN83), (WKSEXP), (AREAUN83), (WUW83), and (NO_JOBS)

Train = Employee training variables including: (PONWKS), (PAPWKS), (POFWKS), (UCONWKS), (CMONWKS), (UCAPWKS), and (COFWKS)

OcCod = Civilian occupation code variables including: (PROFESS), (TECH), (SALES), (ADMIN), (SERVICE), (FARMING), (CRAFT), (OPMACHN), and (OPMOVNG)

Vetmon = Time in months since discharge from the military and migrated between counties or states

Vetsq = Time in months squared since discharge from the military and migrated between counties or states

VetB = Dummy variable indicating veteran status

U_i = Random error term

IV. EMPIRICAL RESULTS

This chapter presents and discusses the results of the twelve models discussed in the previous chapter.

A. EFFECT OF MATCHING AND USE OF SKILLS

Models (A), (B), and (C) analyze the effects of the transferability of military skills to civilian occupations on civilian earnings for the full sample and the veteran subsample. Models (D), (E), and (F) analyze the effects of the utilization of military skills in civilian occupations on civilian earnings for the full sample and veteran subsample.

1. Model (A)

Table 12 presents the estimated coefficients and t-values of model (A) for the full thesis sample (which includes veterans) and separately for the veteran subsample. The results of model (A) differ significantly between the full sample and the veteran subsample. As shown in columns (i) and (ii) of Table 12, the significant variables affecting civilian earnings for the full sample are (WTEN83), (WKSEXP), (YRSSCH83), (AREAUN83), (SMSA), (MALE), (NONWHITE), (HEALTHY), (MARRIED), (WUW83), and (VETB). The coefficients in column (i) of Table 12, based on the full thesis sample that includes veterans, can be compared to those in column (iii) of Table 6, which omits (VETB). The differences between the two models are slight. The variable (NO_JOBS), which was negative and insignificant in the original model, has become positive; nonetheless it is still insignificant. The other major difference between these two models is the variable (VETB), which is positive and significant in model (A). Moreover, the coefficient indicates a strong earnings effect of military service. Veterans earn nearly 15 percent more than otherwise similar nonveterans.

The coefficient of the variable (MATCH) is positive but statistically insignificant. This is probably due to the high correlation between (MATCH) and (VETB). Almost 90 percent of all veterans had a matching civilian occupation. The veteran subsample results of model (A) as shown in columns (iii) and (iv) of Table 12 show the significant variables affecting civilian earnings for the veteran subsample only are (WKSEXP), (YRSSCH83), (SMSA), (MALE), (NONWHITE), (MARRIED), and (WUW83). These results are quite dissimilar to the results obtained for the full sample. Weeks of tenure at a civilian job is positive but not significant for veterans. This result may be due to the nonveteran's advantage over a veteran in having directly entered the civilian job market. The veteran, on the other hand, will not have had enough time in the civilian labor force to develop tenure on his or her present job. Also, the intercept terms between the full sample and the veteran subsample are comparable in value, but the veteran intercept term is statistically insignificant. Finally, the estimated coefficient and t-value for (MATCH) in the veteran subsample is negative and statistically insignificant. This will be examined further in models (B) and (C).

2. Model (B)

Table 13 displays the results of model (B), in which the natural logarithm of wages is estimated as a function of demographic variables, veteran status, and the transferability of military occupations to civilian jobs, as specified above in model (A). In addition, this model incorporates the effect of private sector training.

As found by McCoy, the demographic variables in this model are insensitive to the inclusion/exclusion of the private sector training variables. Demographic variables that are statistically significant/insignificant in model (A) are also statistically significant/insignificant in model (B). Also, the magnitudes of the estimated coefficients are consistent with model (A).

Estimates of private sector training variables differ between the full sample and the veteran subsample. Weeks of completed on-the-job training on the current job (CMONWKS) are positive for the full sample, and the coefficients are statistically significant. For the full sample, an additional week of completed on-the-job training increases earnings by 0.5 percent. For the veteran subsample, none of these on-the-job training variables are statistically significant. Previous weeks of off-the-job training completed for both the full sample and the veteran subsample are positive and statistically significant. This type of training increases earnings 0.1 percent per week of training for the full sample and 0.2 percent for the veteran subsample. Uncompleted off-the-job training is negative and insignificant for both data samples. Weeks of on-the-job training completed at previous jobs is positive for the full sample, and it is negative for the veteran subsample, but neither of these estimates are statistically significant. Variables describing weeks of apprenticeship training are positive and significant for the full sample, but negative and insignificant for the veteran subsample. McCoy explains that apprenticeship training programs are generally intense training periods of long duration teaching a difficult/complicated skill, which is generally transferrable [Ref. 8:p. 47]. Nonveterans, within the full sample, have time to complete these programs, while veterans have not had sufficient time in the civilian labor market to complete training programs.

The military skills transfer variable (MATCH) is statistically insignificant for both the full sample and the veteran subsample. Finally, veteran status captured in (VETB) is positive and statistically significant for the full sample. (VETB) increases earnings by 15.5 percent over comparable nonveterans.

3. Model (C)

Table 14 depicts the results of model (C), the natural logarithm of wages, as a function of demographic variables, private sector training, veteran status, and the transferability of military occupations to civilian jobs. In addition, dummy variables for current occupation are included. The addition of current occupation codes changes the significance and effect of some of the demographic variables slightly, as shown by comparing Tables 12 and 14. For the full sample, variables dependent on the amount of time spent in the private sector job market (<u>WTEN83</u> and <u>WKSEXP</u>) decrease slightly in significance and effect, while (<u>WUW83</u>) increases in significance but decreases in its effect on earnings. Additionally, factors not dependent on the amount of time spent in the private sector including, local unemployment rate, years of education, gender, race, and marital status also decrease in significance and size. On the other hand, health status increases in significance and size for the full sample. The significance and effect on earnings of the private sector training variables from model (B) are comparable with the results of model (C) for the full sample. The significance and size of the transfer military skills variable (<u>MATCH</u>) are improved as compared with the results in Table 12 for the full sample, but the coefficient is still statistically insignificant for both the full sample and the veteran subsample. Finally, the effect on earnings and significance of veteran status (<u>VETB</u>) decreases slightly in model (C) when compared to model (A). However, the results of model (C) indicate that veteran status increases civilian earnings 13.1 percent above comparable nonveterans.

The veteran subsample results of model (3) are presented in columns (iii) and (iv) of Table 14. As shown in Table 14, job experience, education, living in a metropolitan area, gender, involvement in a union, and working in either the technical or craft industries improve civilian earnings among veterans. Race was the single significant variable which reduces earnings within the veteran subsample. Additionally, the match of military occupations to civilian jobs variable (MATCH) is positive, but it is statistically insignificant. Therefore, this model suggests that the existence of a match between one's military and civilian occupation does not affect veterans' private sector earnings.

4. Model (D)

Table 15 presents the estimated coefficients and t-values of model (D) for the full thesis sample (which includes veterans) and for the veteran subsample. The results of this model for the full sample indicate that veteran status and the use of military skills in civilian jobs (USESKILL) positively affect earnings. The introduction of (USESKILL) reduces the size of the veteran status coefficient (VETB). Veteran status increases earnings 10.8 percent in comparison to nonveterans. Additionally, veterans who utilize their military skills in the private sector can expect 21.5 percent more than their counterpart nonveterans. Thus, veterans who use their skills can expect a sizeable 32 percent earnings advantage when compared to otherwise similar nonveterans. This suggests that perhaps what is of value to the civilian sector is the general skill training that one receives in the military rather than any specific occupation training. Results for the veteran subsample shown in columns (iii) and (iv) of Table 15 also indicate that veterans who use their military training earn higher wages. Veterans who use their military skills in civilian jobs receive 20.4 percent higher wages than veterans who do not use their acquired military training.

5. Model (E)

Table 16 depicts the results of model (E), the natural logarithm of wages as a function of demographic variables, private sector training, and the utilization of military occupations in civilian jobs. The results of this model are comparable to the results of model (D) shown in Table 15. Veteran status increases earnings 11.5 percent in comparison to nonveterans, and veterans who utilize their military skills in the private sector earn 21.5 percent more than their counterpart non-veterans. The results for the veteran subsample are also similar to the results of the previous model. Veterans using their military skills in their current civilian occupations receive 20.2 percent more wages than veterans who do not (or cannot) use their military training in current civilian occupations. Thus, adding the training variables does not alter the previous results.

6. Model (F)

Finally, Table 17 depicts the results of model (F), the natural logarithm of wages, as a function of demographic variables, private sector training, current occupation category, veteran status, and the utilization of military skills in current civilian occupations. As shown in Table 17, veterans' civilian wages are 9.8 percent higher than non-veterans' wages, when current civilian occupation dummies and civilian training dummies are included. Furthermore, these results show the civilian wages of veterans that use their military training in their current occupations are 20.9 percent higher than nonveterans, and 19.8 percent higher than veterans who do not utilize their military skills in their current occupation. Again, adding the new variables to the model does not alter the basic results. Veterans who report using their military skills reap much higher earnings.

B. EFFECT OF ASSIMILATION AND MIGRATION

Models (G) through (L) analyze the earnings effect of the assimilation and migration of veterans in civilian labor markets. Models (G) and (H) estimate the natural logarithm of civilian earnings as a function of demographic variables, private sector training variables, and time since discharge from the military for the full sample.

The results of models (G) and (H) are presented in Table 18. The results of model (G), as depicted in columns (i) and (ii) of Table 18, show that veterans (VETB) maintain a 24.5 percent earnings advantage in comparison to nonveterans. However, neither time since discharge from the military (VETOUT) nor time since discharge from the military squared (VETRET) are statistically significant. When private sector training variables are combined with these results, as in model (H), veterans status increases earnings by 26.2 percent above comparable nonveterans. Estimates for the rate of growth of veterans' wages (VETOUT) and the rate of this growth rate (VETRET) are statistically insignificant in model (H). It appears that the assimilation of veterans in the labor force is very rapid.

The effect of veteran migration on civilian earnings is examined in models (I) and (J). The results of models (I) and (J) are presented in Table 19. The coefficient for veteran status in Table 19 is positive and significant regardless of whether civilian training variables are included or excluded from the earnings models. These results indicate that veterans' civilian earnings are 13.3 percent and 13.7 percent higher than counterpart nonveterans for models (I) and (J), respectively. Veteran migration is positive in both models, but these estimates are only significant at the 0.20 confidence level. Therefore, the estimates for (VETMIG) in models (I) and (J) indicate that veterans, in general, receive about 18 percent higher earnings when they migrate, either between states or counties, compared to nonveterans and veterans who do not migrate. Also, the t-value for the veteran migration variable increases slightly as training variables are included in the specification.

Finally, models (K) and (L) combine the results of models (G) through (J). Model (K) estimates the natural logarithm of civilian earnings as a function of demographic variables, veterans' assimilation time in civilian labor markets, and migration since discharge from the military for the full sample. Model (L) is similar to model (K) with the exception that model (L) includes private sector training variables. This specification aids in comparing veterans and nonveterans with dissimilar training and educational backgrounds. The results of models (K) and (L) are presented in Table 20. As shown in Table 20, veterans' earnings are 14.4 percent and 14.8 percent higher than nonveterans' earnings for models (K) and (L), respectively. Coefficients combining migration and time since discharge (VETMON and (VETSQ) are insignificant in both models, but the significance of these estimates improves as more variables are incorporated into the earnings model, as shown in column (iv) of Table 20. However, they never reach usual levels of significance.

V. CONCLUSIONS & RECOMMENDATIONS

A. FIRST RESEARCH QUESTION

How does the existence of a civilian occupation that matches one's military occupation affect veterans' civilian earnings? Table 14 shows that although there is a positive correlation between the match of military skills to civilian occupations these estimates are statistically insignificant. Therefore, this model suggests that the mere existence of a match has little effect on private sector wages. However, the (MATCH) variable was constructed manually from frequency tables of the CROSSWALK data file. This methodology produced results that could only determine that a civilian occupation code existed that matched a specific military occupation code. A more detailed analysis of the CROSSWALK data file may yield more information on the transferability of military skills into civilian labor markets. For example, further research may be able to identify each of the individual civilian occupations that have been matched to military occupations.

B. SECOND RESEARCH QUESTION

The answer to the question, "Does the utilization of military skills and training in civilian occupations affect the private sector wages of veterans?" appears to be yes. The analysis of models (D) through (F), which specify wages as a function of demographic variables, private sector training variables, civilian occupations, and the use of military skills in current civilian jobs (presented in Tables 15 through 17), shows that veterans who use their military training in their current civilian jobs receive 21 percent higher wages than nonveterans. These results also show that veterans who utilize their military training in civilian occupations receive 20 percent higher civilian wages than veterans who do not use their military skills in civilian occupations. This thesis argues that perhaps what is of value to the civilian sector are the general skills one receives in the military rather than any specific occupation training.

C. THIRD RESEARCH QUESTION

How do veterans assimilate into the private sector? That is, do veterans' civilian wages grow at the same rate as nonveterans after veterans enter the civilian labor market. As shown in Table 18, the answer to this question appears to be yes. The coefficients for the civilian wage growth rates of veterans are very small and statistically insignificant. Therefore, it is concluded that the wage growth rates of veterans is comparable to the wage growth rates of nonveterans.

D. FOURTH RESEARCH QUESTION

What is the role of geographic migration in the assimilation of veterans into civilian labor markets? The answer to this question is that veterans who continue the migratory lifestyle of the military in the private sector receive higher wages compared to nonveterans and nonmigrant veterans. As shown in Table 19, the estimated effect of the migration of veterans in determining civilian wages rates (VETMIG) does not quite reach significant at the 0.05 confidence level. Therefore, it is concluded that migration between counties or states increases the civilian earnings of veterans in comparison to nonveterans and nonmigrant veterans. Additionally, Table 20 presents the results of combining assimilation of veterans into the private sector and migration. These estimates are also statistically insignificant, but the signs of the coefficients for migration and assimilation of veterans agree with the findings of Borjas, Bronars, and Trejo. Their research finds that migrants experience higher wage growth rates, which agrees with the positive sign for (VETMON), and this wage growth diminishes over time since migration, which agrees with the negative sign for (VETSQ) [Ref. 7:p. 170]. Thus, migration appears to play a key role in promoting the assimilation of veterans. However, further research is need to detail the differences in the effect by type of migration (between states versus between counties, for example).

E. FIFTH RESEARCH QUESTION

Do veterans incur a civilian wage premium or a penalty from serving in the military? This thesis finds that veterans receive a significant wage premium for serving in the military. All estimates for the effect of veteran status on post-service civilian wages are positive and significant. This indicates that employers value one's military background, and they are willing to compensate veterans for this experience. The estimated wage premiums for veterans ranged from 9.8 to 26.2 percent over comparable nonveterans. Furthermore, veterans continue to enhance their civilian earnings relative to other veterans and nonveterans by using their military skills on their civilian jobs.

APPENDIX

This appendix presents the data in table format utilized in this thesis.

Restrictions	Number Deleted	Remaining Sample Size
Original NLSY sample	0	12686
Active duty military and those who attrited prior to their EAOS	594	12092
College graduates as of 1983 interview date	768	11324
Did not complete school by 1980 interview date	5483	5841
No wage observation for 1980 and 1983	2320	3521

Table 1. Number Deleted from Sample by Criteria

Variable[a]	McCoy[b]	Thesis
Hourly Wage, 1983	$ 5.74	$ 5.78
Percentage Male	53	57
Percentage nonwhite	25	25
School years	11.67	11.70
Weeks Tenure in 1983	107.48	100.57
Percent unemployment rate	11.6	11.7
Percentage residing in SMSA	70.9	71.9
Percentage healthy	96.1	96.3
Percentage married	41.1	41.7
Percent with on-job training	6.1	6.4
Percent with off-job training	20.1	20.7
Percent apprenticed	2.1	2.0
Duration of on-the-job training, in weeks	25.03	23.09
Duration of off-the-job training, in weeks	42.59	41.75
Duration of apprenticeship, in weeks	63.42	59.69
Sample size	3038	3521

[a]Means or proportions.
[b]Source: Eric G. McCoy, *The Impact of Military Training on Veterans' Earnings in the Private Sector: Is There Complimentarily Between Military and Private Training for Veterans?*, Naval Postgraduate School, Masters Thesis, March 1994, pp. 18.

Table 2. Descriptive Statistics of NLSY Variables from Original Lynch Sample and Replicated Sample in Thesis

Table 3. Descriptive Statistics for Veteran Subsample in Thesis

Variable	Value[a]	Standard Deviation
Wage, 1983	6.01	2.73
Percent male	77.8	41.5
Percent nonwhite	22.2	41.6
Years of school	12.0	0.8
Tenure on current/most recent job, in weeks	57.0	53.3
Unemployment rate	12.4	33.0
Percent living in SMSA	78.1	41.4
Percent healthy	97.8	14.6
Percent married	45.4	49.8
Percent union	18.9	39.2
% with private sector on-the-job training	9.6	29.4
% with private sector off-the-job training	24.6	43.1
% with private sector apprenticeship	1.3	11.4
Weeks of private sector on-the-job training (of those with private sector on-the-job training)	14.8	16.4
Weeks of private sector off-the-job training (of those with private sector off-the-job training)	37.6	43.3
Weeks of private sector apprenticeship (of those with apprenticeship)	34.7	53.7
Weeks of formal military training	10.1	10.1
Total weeks of all private sector training	10.4	27.4

Table 3. (Continued)

Variable	Value[a]	Standard Deviation
Total weeks of all military training	25.3	26.9
Percent in professional occupation	4.1	20.0
Percent in technical occupation	3.3	17.8
Percent in sales occupation	6.3	24.3
Percent in administrative occupation	11.7	32.2
Percent in service occupation	21.1	40.8
Percent in craft occupation	18.9	39.2
Percent in operator-machine occupation	14.1	34.9
Percent in operator-moving occupation	6.1	23.9
Percent in operator-labor occupation	10.9	31.2
Sample size	460	

Table 4. Descriptive Statistics for Nonveteran Subsample in Thesis

Variable	Value[a]	Standard Deviation
Wage, 1983	5.75	2.95
Percent male	53.3	49.9
Percent nonwhite	25.4	43.5
Years of school	11.7	1.7
Tenure on current/most recent job, in weeks	107.1	88.9
Unemployment rate	11.6	32.0
Percent living in SMSA	71.0	45.4
Percent healthy	96.1	19.4
Percent married	41.1	49.2
Percent union	19.0	39.2
% with private sector on-the-job training	5.9	23.7
% with private sector off-the-job training	20.1	40.1
% with private sector apprenticeship	2.1	14.2
Weeks of private sector on-the-job training (of those with private sector on-the-job training)	25.1	32.5
Weeks of private sector off-the-job training (of those with private sector off-the-job training)	42.5	38.8
Weeks of private sector apprenticeship (of those with apprenticeship)	62.0	62.0
Weeks of formal military training	0	0
Total weeks of all private sector training	10.8	28.0

Table 4. (Continued)

Variable	Value[a]	Standard Deviation
Total weeks of all military training	0.4	4.5
Percent in professional occupation	4.5	20.7
Percent in technical occupation	2.7	16.1
Percent in sales occupation	8.9	28.5
Percent in administrative occupation	19.9	40.0
Percent in service occupation	20.9	40.7
Percent in craft occupation	12.6	33.2
Percent in operator-machine occupation	12.0	32.5
Percent in operator-moving occupation	5.5	22.7
Percent in operator-labor occupation	8.4	27.8
Sample size	3061	

Table 5. Definitions of Explanatory Variables in Earnings Models, and Expected Signs

Variable	Definition	Expected Sign
	DEPENDENT VARIABLE	
LNWAGE83	Natural log of respondents' 1983 wage	
	HUMAN CAPITAL AND DEMOGRAPHIC VARIABLES	
WTEN83	Weeks of tenure on current/most recent job	+
WKSEXP	Total weeks of civilian employment	+
YRSSCH83	Years of school completed	+
AREAUN83	Unemployment rate of area of residence	-
SMSA	Standard metropolitan statistical area	+
MALE	1 if male 0 if female	+
NONWHITE	1 if nonwhite 0 if white	-
HEALTHY	1 if healthy 0 if not healthy	+
MARRIED	1 if married 0 if not married	+
WUW83	1 if member of a labor union 0 if not member of a union	+
NO_JOBS	Number of jobs ever held	-
PONWKS	Weeks of on-the-job training completed at previous job(s)	+
PAPWKS	Weeks of apprenticeship training completed at previous job(s)	+
POFWKS	Weeks of off-the-job training completed at previous job(s)	+

Table 5. (Continued)

Variable	Definition	Expected Sign
UCONWKS	Weeks of uncompleted on-the-job training at current/most recent job	+
CMONWKS	Weeks of completed on-the-job training at current/most recent job	+
UCAPWKS	Weeks of uncompleted apprenticeship training at current/most recent job	+
COFWKS	Weeks of completed on-the-job training at current/most recent job	+
PROFESS	1 if managerial and professional specialty 0 if not	+
TECH	1 if technical 0 if not	+
SALES	1 if sales worker 0 if not	-
ADMIN	1 if administrative support or clerical 0 if not	+
SERVICE	1 if service worker 0 if not	-
FARMING	1 if farming, forestry or fishing worker 0 if not	-
CRAFT	1 if precision production, craft or repair 0 if not	+
OPMACHN	1 if machine operator, assembler or inspector 0 if not	-
OPMOVNG	1 if operator-transportation or material moving 0 if not	+

Table 5. (Continued)

Variable	Definition	Expected Sign
VETB	1 if veteran from U.S. military 0 if not	?
MATCH	1 if a military occupation to civilian occupation transferability exists 0 if not	?
USESKILL	1 if veteran uses military skills in current civilian job 0 if not	?
VETOUT	Time in months since veteran was discharge from the military	?
VETRET	Time in months squared since veteran was discharged from the military	?
VETMIG	1 if veteran migrates between states or counties 0 if not	?
VETMON	Time in months since the veteran migrated	?
VETSQ	Time in months squared since a veteran migrated	?

Variable	McCoy Results[a]		Replicated Results	
	Coefficient (i)	t-Value (ii)	Coefficient (iii)	t-Value (iv)
Intercept	0.34	4.01*	0.337	4.11*
WTEN83	0.001	7.39*	0.001	6.91*
WKSEXP	0.001	8.96*	0.001	8.98*
YRSSCH83	0.05	11.57*	0.055	11.6*
AREAUN83	-0.01	-4.29*	-0.010	-4.27*
SMSA	0.10	5.68*	0.103	5.66*
MALE	0.26	16.46*	0.256	16.46*
NONWHITE	-0.09	-5.24*	-0.090	-5.08*
HEALTHY	0.13	3.20*	0.129	3.19*
MARRIED	0.06	3.84*	0.061	3.88*
WUW83	0.23	11.98*	0.234	11.95*
NO_JOBS	-0.001	-0.32	-0.001	-0.28
R-squared	0.25		0.25	
Sample size	3286		3285	

* significant at the 0.05 level

Table 6. OLS Estimates from McCoy Basic Earnings Model and Replicated Model in Thesis - Full Sample

Variable	McCoy Results[a]		Replicated Results	
	Coefficient (i)	t-Value (ii)	Coefficient (iii)	t-Value (iv)
Intercept	0.27	0.89	0.28	0.815
WTEN83	0.0004	0.6	0.0007	1.13
WKSEXP	0.002	3.63*	0.0016	2.76*
YRSSCH83	0.08	4.08*	0.073	3.12*
AREAUN83	-0.007	-1.15	-0.005	-0.81
SMSA	0.11	2.20*	0.118	2.30*
MALE	0.25	5.16*	0.24	4.87*
NONWHITE	-0.11	-2.31*	-0.09	-1.65*
HEALTHY	0.02	0.17	0.02	0.14
MARRIED	0.06	1.65*	0.07	1.67*
WUW83	0.31	5.95*	0.31	6.05*
NO_JOBS	-0.018	-1.74*	-0.016	-1.39*
R-squared	0.28		0.27	
Sample size	435		414	

* significant at the 0.05 level

Table 7. OLS Estimates from McCoy Basic Earnings Model and Replicated Model in Thesis - Veteran Subsample

Variable	McCoy Results[a]		Replicated Results	
	Coefficient (i)	t-Value (ii)	Coefficient (iii)	t-Value (iv)
Intercept	0.34	3.90*	0.26	3.02*
WTEN83	0.0009	7.44*	0.0009	7.33*
WKSEXP	0.0017	10.30*	0.0017	10.43*
YRSSCH83	0.05	10.14*	0.05	10.36*
AREAUN83	-0.008	-3.24*	-0.009	-3.43*
SMSA	0.10	5.18*	0.1	5.14*
MALE	0.23	13.83*	0.24	14.01*
NONWHITE	-0.08	-3.98*	0.08	4.07*
HEALTHY	0.13	3.12*	0.13	3.13*
MARRIED	0.05	3.04*	0.05	3.05*
WUW83	0.22	10.38*	0.22	10.31*
NO_JOBS	0.007	1.79*	0.007	1.78*
R-squared	0.26		0.26	
Sample size	2851		2870	

* significant at the 0.05 level

Table 8. OLS Estimates from McCoy Basic Earnings Model and Replicated Model in Thesis - Nonveteran Subsample

Variable	McCoy Results[a]		Replicated Results	
	Coefficient (i)	t-Value (ii)	Coefficient (iii)	t-Value (iv)
Intercept	0.37	5.68*	0.37	4.55*
WTEN83	0.0008	6.95*	0.0008	7.01*
WKSEXP	0.0012	8.72*	0.0012	8.72*
YRSSCH83	0.05	10.88*	0.05	10.91*
AREAUN83	-0.011	-4.47*	-0.011	-4.47*
SMSA	0.1	5.63*	0.1	5.66*
MALE	0.25	15.99*	0.25	16.04*
NONWHITE	-0.09	5.15*	-0.09	4.96*
HEALTHY	0.13	3.22*	0.13	3.23*
MARRIED	0.06	3.75*	0.06	3.86*
WUW83	0.23	11.64*	0.23	11.71*
NO_JOBS	-0.001	-0.34	-0.001	-0.24
PONWKS	0.0012	1.12	0.0013	1.13
PAPWKS	0.003	3.79*	0.003	3.76*
POFWKS	0.0009	2.63*	0.0009	2.66*
UCONWKS	0.0023	1.65*	0.0023	1.646*
CMONWKS	0.0047	2.68*	0.0047	2.66*
UCAPWKS	0.0021	1.7*	0.0021	1.68*
COFWKS	-0.0001	-0.14	-0.0001	-0.12
R-squared	0.26		0.26	
Sample size	3286		3285	

* significant at the 0.05 level

Table 9. OLS Estimates from McCoy Earnings Model with Training Variables and Replicated Model in Thesis - Full Sample

Variable	McCoy Results[a]		Replicated Results	
	Coefficient (i)	t-Value (ii)	Coefficient (iii)	t-Value (iv)
Intercept	0.26	0.83	0.27	0.777
WTEN83	0.0004	0.65	0.001	1.204
WKSEXP	0.0028	3.61*	0.002	2.68*
YRSSCH83	0.08	3.95*	0.073	3.01*
AREAUN83	-0.008	-1.3	-0.006	-0.99
SMSA	0.11	2.18*	0.116	2.25*
MALE	0.25	5.19*	0.24	4.87*
NONWHITE	-0.11	-2.29*	-0.08	-1.67*
HEALTHY	0.04	0.31	0.035	0.27
MARRIED	0.06	1.42	0.06	1.51
WUW83	0.31	5.95*	0.319	6.05*
NO_JOBS	-0.017	-1.61	-0.014	-1.25
PONWKS	-0.002	-0.40	-0.001	-0.22
PAPWKS	-0.0001	-0.12	-0.0002	-0.02
POFWKS	0.002	1.68*	0.002	1.72*
UCONWKS	0.006	1.41	0.006	1.48
CMONWKS	-0.0004	-0.05	-0.001	-0.12
UCAPWKS	0.002	0.54	0.001	0.50
COFWKS	-0.0011	-1.26	-0.001	-1.09
R-squared	0.29		0.28	
Sample size	435		414	

* significant at the 0.05 level

Table 10. OLS Estimates from McCoy Earnings Model with Training Variables and Replicated Model in Thesis - Veteran Subsample

Variable	McCoy Results[a]		Replicated Results	
	Coefficient (i)	t-Value (ii)	Coefficient (iii)	t-Value (iv)
Intercept	0.38	4.44*	0.297	3.45*
WTEN83	0.0009	7.46*	0.0009	7.46*
WKSEXP	0.002	10.27*	0.002	10.3*
YRSSCH83	0.05	9.66*	0.047	9.61*
AREAUN83	-0.009	-3.4*	-0.009	-3.55*
SMSA	0.1	5.35*	0.099	5.12*
MALE	0.22	13.81*	0.228	13.55*
NONWHITE	-0.07	-4.03*	-0.074	3.92*
HEALTHY	0.13	3.14*	0.133	3.15*
MARRIED	0.05	2.99*	0.051	3.02*
WUW83	0.21	10.14*	0.211	10.04*
NO_JOBS	0.007	1.82*	0.007	1.87*
PONWKS	0.0015	1.24	0.0015	1.29
PAPWKS	0.0032	3.97*	0.003	3.97*
POFWKS	0.0010	2.57*	0.001	2.66*
UCONWKS	0.0018	1.14	0.0018	1.18
CMONWKS	0.0047	2.64*	0.005	2.57*
UCAPWKS	0.0023	1.75*	0.0023	1.70*
COFWKS	-0.0002	-0.31	-0.0001	-0.15
R-squared	0.27		0.27	
Sample size	2851		2870	

* significant at the 0.05 level

Table 11. OLS Estimates from McCoy Earnings Model with Training Variables and Replicated Model in Thesis - Nonveteran Subsample

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.281	3.44*	0.280	0.82
WTEN83	0.0009	7.3*	0.0007	1.13
WKSEXP	0.002	10.68*	0.002	2.74*
YRSSCH83	0.051	10.90*	0.073	3.14*
AREAUN83	-0.009	-3.70*	-0.005	-0.81
SMSA	0.1	5.57*	0.1187	2.30*
MALE	0.235	14.86*	0.235	4.86*
NONWHITE	-0.079	-4.5*	-0.079	1.65*
HEALTHY	0.122	3.04*	0.017	0.13
MARRIED	0.054	3.44*	0.068	1.67*
WUW83	0.23	11.79*	0.315	6.05*
NO_JOBS	0.003	1.01	-0.06	-1.40
MATCH	0.019	0.40	-0.006	-0.14
VETB	0.148	3.63	a	a
R-squared	0.26		0.27	
Sample size	3285		414	

* significant at the 0.05 level
a - Variable VETB excluded from veteran subsample model

Table 12. Results of Model (A) for Full Sample and Veteran Subsample - Wage Effect of Match of Military to Civilian Occupation

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.316	3.856*	0.272	0.777
WTEN83	0.009	7.43*	0.0008	1.202
WKSEXP	0.0016	10.54*	0.0016	2.665*
YRSSCH83	0.0483	10.12*	0.0728	3.010*
AREAUN83	-0.009	-3.849*	-0.006	-0.992
SMSA	0.10	5.581*	0.117	2.249*
MALE	0.229	14.421*	0.237	4.866*
NONWHITE	-0.076	-4.34*	-0.077	-1.603
HEALTHY	0.123	3.083*	0.0346	0.267
MARRIED	0.053	3.405*	0.062	1.509
WUW83	0.224	11.536*	0.319	6.038*
NO_JOBS	0.004	1.114	-0.014	-1.244
PONWKS	0.001	1.191	-0.001	-0.212
PAPWKS	0.003	3.939*	-0.0002	-0.026
POFWKS	0.001	3.054*	0.002	1.713*
UCONWKS	0.002	1.599	0.006	1.477
CMONWKS	0.005	2.597*	-0.001	-0.117
UCAPWKS	0.002	1.642	0.0015	0.503
COFWKS	-0.0003	-0.519	-0.0009	-1.087
MATCH	0.019	0.049	-0.002	-0.044
VETB	0.155	3.809*	a	a
R-squared	0.27		0.28	
Sample size	3285		414	

* significant at the 0.05 level
a - Variable VETB excluded from veteran subsample model

Table 13. Results of Model (B) for Full Sample and Veteran Subsample - Wage Effect of Match of Military to Civilian Occupation

Table 14. Results of Model (C) for Full Sample and Veteran Subsample - Wage Effect of Match of Military to Civilian Occupation

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.461	5.555*	0.113	0.325
WTEN83	0.0008	7.021*	0.007	1.135
WKSEXP	0.001	9.648*	0.002	2.746*
YRSSCH83	0.040	8.437*	0.076	3.109*
AREAUN83	-0.008	-3.334*	-0.004	-0.269
SMSA	0.097	5.518*	0.134	2.590*
MALE	0.206	11.524*	0.21	3.930*
NONWHITE	-0.062	3.606*	-0.049	1.013
HEALTHY	0.125	3.228*	0.107	0.837
MARRIED	0.041	2.699*	0.052	1.263
WUW83	0.219	11.527*	0.327	6.233*
NO_JOBS	0.006	1.733*	-0.013	-1.127
PONWKS	0.0006	0.581	-0.003	-0.464
PAPWKS	0.003	3.664*	0.003	0.365
POFWKS	0.0007	2.031*	0.001	1.164
UCONWKS	0.002	1.344	0.006	1.464
CMONWKS	0.003	1.998*	-0.002	-0.248
UCAPWKS	0.001	1.123	0.002	0.636
COFWKS	-0.0003	-0.541	-0.001	-0.941
PROFESS	0.152	3.497*	0.022	0.193
TECH	0.261	5.055*	0.371	2.697*
SALES	-0.058	-1.622	0.005	0.053
ADMIN	0.049	1.511	0.048	0.539
SERVICE	-0.161	-5.368*	-0.065	-0.858
FARMING	-0.180	-4.103*	-0.052	-0.355

* significant at the 0.05 level

Table 14. (Continued)

Variable	**Full Sample**		**Veteran Subsample**	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
CRAFT	0.120	3.790*	0.193	2.603*
OPMACHN	0.024	0.746	0.009	0.108
OPMOVNG	-0.029	-0.749	0.0457	0.453
MATCH	0.028	0.362	0.012	0.272
VETB	0.131	3.310	a	a
R-squared	0.32		0.33	
Sample size	3285		414	

* significant at the 0.05 level
a - Variable VETB excluded from veteran subsample model

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.279	3.417*	0.331	0.995
WTEN83	0.001	7.371*	0.001	1.175
WKSEXP	0.002	10.931*	0.002	3.046*
YRSSCH83	0.051	10.841*	0.064	2.803*
AREAUN83	-0.009	-3.596*	-0.004	-0.602
SMSA	0.100	5.579*	0.119	2.360*
MALE	0.234	14.857*	0.234	4.945*
NONWHITE	-0.007	-4.403*	-0.062	-1.324
HEALTHY	0.120	3.001*	-0.0003	-0.002
MARRIED	0.054	3.470*	0.069	1.724*
WUW83	0.227	11.703*	0.304	5.996*
NO_JOBS	0.004	1.194	-0.014	-1.234
USESKILL	0.215	4.600*	0.204	4.625*
VETB	0.108	3.768*	a	a
R-squared	0.26		0.31	
Sample size	3285		414	

* significant at the 0.05 level
a - Variable VETB excluded from veteran subsample model

Table 15. Results of Model (D) for Full Sample and Veteran Subsample - Wage Effect of Use of Military Skills in Civilian Occupation

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.313	3.840*	0.310	0.910
WTEN83	0.001	7.501*	0.001	1.235
WKSEXP	0.002	10.777*	0.002	2.989*
YRSSCH83	0.048	10.104*	0.064	2.724*
AREAUN83	-0.009	-3.785*	-0.005	-0.773
SMSA	0.100	5.589*	0.116	2.300*
MALE	0.228	14.240*	0.236	4.972*
NONWHITE	-0.075	-4.250*	-0.062	1.322
HEALTHY	0.121	3.047*	0.019	0.149
MARRIED	0.053	3.435*	0.064	1.600
WUW83	0.222	11.454*	0.308	5.976*
NO_JOBS	0.004	1.294	-0.012	-1.090
PONWKS	0.001	1.143	-0.003	-0.626
PAPWKS	0.003	3.963*	-0.00002	-0.002
POFWKS	0.001	3.059*	0.002	1.742*
UCONWKS	0.002	1.539	0.005	1.242
CMONWKS	0.005	2.627*	0.0002	0.017
UCAPWKS	0.002	1.713*	0.002	0.558
COFWKS	-0.0002	-0.383	-0.001	-0.958
USESKILL	0.215	4.615*	0.202	4.531*
VETB	0.115	4.005*	a	a
R-squared	0.27		0.32	
Sample size	3285		414	

* significant at the 0.05 level
a - Variable VETB excluded from veteran subsample model

Table 16. Results of Model (E) for Full Sample and Veteran Subsample - Wage Effect of Use of Military Skills in Civilian Occupation

Table 17. **Results of Model (F) for Full Sample and Veteran Subsample - Wage Effect of Use of Military Skills in Civilian Occupation**

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.459	5.551*	0.164	0.486
WTEN83	0.001	7.131*	0.001	1.128
WKSEXP	0.001	9.839*	0.002	3.082*
YRSSCH83	0.040	8.461*	0.072	3.037*
AREAUN83	-0.008	-3.259*	-0.003	-0.464
SMSA	0.098	5.592*	0.135	2.663*
MALE	0.204	11.467*	0.201	3.850*
NONWHITE	0.060	3.530*	0.038	0.794
HEALTHY	0.123	3.194*	0.079	0.630
MARRIED	0.041	2.737*	0.050	1.228
WUW83	0.218	11.499*	0.310	6.040*
NO_JOBS	0.006	1.955*	-0.012	-1.044
PONWKS	0.001	0.549	-0.005	-0.844
PAPWKS	0.003	3.666*	0.004	0.473
POFWKS	0.001	2.106*	0.002	1.278
UCONWKS	0.002	1.275	0.004	1.192
CMONWKS	0.003	2.028*	-0.001	-0.119
UCAPWKS	0.001	1.176	0.002	0.648
COFWKS	-0.0002	-0.378	-0.001	-0.754
PROFESS	0.142	3.260*	-0.045	-0.407
TECH	0.247	4.786*	0.279	2.055*
SALES	-0.061	-1.695*	0.003	0.028
ADMIN	0.041	1.280	-0.005	-0.056
SERVICE	-0.170	-5.659*	-0.118	-1.570
FARMING	-0.186	-4.253*	-0.101	-0.698

* significant at the 0.05 level

Table 17. (Continued)

Variable	Full Sample		Veteran Subsample	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
CRAFT	0.115	3.662*	0.148	2.027*
OPMACHN	0.022	0.673	-0.005	-0.066
OPMOVNG	-0.032	-0.820	0.032	0.325
USESKILL	0.209	4.615*	0.198	4.374*
VETB	0.098	3.502*	a	a
R-squared	0.32		0.36	
Sample size	3285		414	

* significant at the 0.05 level
a - Variable VETB excluded from veteran subsample model

Variable	Model (G)		Model (H)	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.263	3.199*	0.297	3.616*
WTEN83	0.001	7.451*	0.001	7.590*
WKSEXP	0.002	10.981*	0.002	10.874*
YRSSCH83	0.051	10.782*	0.048	10.031*
AREAUN83	-0.008	-3.543*	-0.009	-3.699*
SMSA	0.100	5.563*	0.100	5.576*
MALE	0.233	14.743*	0.227	14.299*
NONWHITE	-0.076	4.305*	-0.073	-4.140*
HEALTHY	0.120	3.009*	0.122	3.054*
MARRIED	0.053	3.427*	0.053	3.391*
WUW83	0.228	11.714*	0.223	11.463*
NO_JOBS	0.005	1.493	0.006	1.611
PONWKS	a	a	0.001	1.184
PAPWKS	a	a	0.003	3.943*
POFWKS	a	a	0.001	3.109*
UCONWKS	a	a	0.002	1.626
CMONWKS	a	a	0.005	2.594*
UCAPWKS	a	a	0.002	1.967*
COFWKS	a	a	-0.0003	-0.439
VETB	0.245	3.266*	0.262	3.491*
VETOUT	-0.001	-0.308	-0.001	-0.423
VETRET	-0.00002	-0.548	-0.00002	-0.465
R-squared	0.26		0.27	
Sample size	3285		3285	

* significant at the 0.05 level
a - Variables excluded from this model

Table 18. Results of Models (G) & (H) for Full Sample - Wage Effect of Veteran Status and Time Since Discharge from Military

Variable	Model (9)		Model (10)	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.279	3.407*	0.313	3.825*
WTEN8	0.001	7.325*	0.001	7.460*
WKSEXP	0.002	10.731*	0.002	10.605*
YRSSCH83	0.051	10.887*	0.048	10.134*
AREAUN83	-0.009	-3.654*	-0.009	-3.808*
SMSA	0.100	5.554*	0.100	5.565*
MALE	0.235	14.821*	0.228	14.379*
NONWHITE	0.079	4.454*	0.076	4.293*
HEALTHY	0.121	3.026*	0.123	3.074*
MARRIED	0.054	3.460*	0.053	3.424*
WUW83	0.229	11.768*	0.224	11.514*
NO_JOBS	0.004	1.091	0.004	1.204
PONWKS	a	a	0.001	1.196
PAPWKS	a	a	0.003	3.943*
POFWKS	a	a	0.001	3.074*
UCONWKS	a	a	0.002	1.610
CMONWKS	a	a	0.005	2.594*
UCAPWKS	a	a	0.002	1.676*
COFWKS	a	a	-0.0003	-0.501
VETB	0.133	3.585*	0.137	3.704*
VETMIG	0.046	1.047	0.051	1.165
R-squared	0.26		0.27	
Sample size	3285		3285	

* significant at the 0.05 level
a - Variables excluded from this model

Table 19. Results of Models (I) & (J) for Full Sample - Wage Effect of Veteran Status and Migration Status

Variable	Model (K)		Model (L)	
	Coefficient (i)	t-value (ii)	Coefficient (iii)	t-value (iv)
Intercept	0.283	3.444*	0.316	3.855*
WTEN83	0.0009	7.298*	0.0009	7.434*
WKSEXP	0.002	10.532*	0.002	10.417*
YRSSCH83	0.051	10.898*	0.048	10.156*
AREAUN83	-0.009	-3.675*	-0.009	-3.830*
SMSA	0.100	5.546*	0.100	5.558*
MALE	0.235	14.840*	0.228	14.398*
NONWHITE	-0.079	-4.484*	-0.076	-4.319*
HEALTHY	0.121	3.025*	0.123	3.075*
MARRIED	0.054	3.445*	0.053	3.411*
WUW83	0.229	11.760*	0.223	11.506*
NO_JOBS	0.003	1.004	0.004	1.123
PONWKS	a	a	0.001	1.197
PAPWKS	a	a	0.003	3.942*
POFWKS	a	a	0.001	3.056*
UCONWKS	a	a	0.002	1.606
CMONWKS	a	a	0.005	2.594*
UCAPWKS	a	a	0.002	1.668*
COFWKS	a	a	-0.0003	-0.499
VETB	0.144	3.958*	0.148	4.079*
VETMON	0.007	0.188	0.001	0.342
VETSQ	0.000003	0.030	-0.00001	-0.110
R-squared	0.26		0.27	
Sample size	3285		3285	

* significant at the 0.05 level
a - Variables excluded from this model

Table 20. Results of Models (K) & (L) for Full Sample - Wage Effect of Veteran Status, Migration Status, and Time Since Discharge from the Military

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